

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: BOB KELLOGG <ae4ic@nr.infi.net>
Subject: [633] 40-9er contest
Message-ID: <199609281707.NAA24340@mh004.infi.net>

Gang, in my haste to get the rules published, I erred on a great prize offered by Doug Hendricks. The Operator who earns the highest score will receive a complete set of back issues of the bound volumes of QRPP, which will include 1993, 94, 95, & 96. (even though the last issue won't be out until Jan. '97) This is a treasure chest of QRP info. Thanks, Doug. (my previous rules post said, wrongly, that the prize would be a 1 year extension or subscription to QRPP)

This is my first time running a contest, guys, so I reserve the right to make mistakes. My dumb decisions will be final, unless I change my mind. Thank you for your patience and understanding.

CUL,
Bob Kellogg, AE4IC
Prolably, but not nececelery. - Benny Hill

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: talljazz@teleport.com (Dan Presley)
Subject: [634] 7040 Digital interference
Message-ID: <v01530500ae73157641fc@[206.163.124.179]>

Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is there a contest, or is it more encroachment?
Dan N7CQR

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: wb2vuo@juno.com (William K Hibbert)
Subject: [643] Alinco DX-70T 'Review'
Message-ID: <19960928.163230.4335.2.wb2vuo@juno.com>

Alinco DX-70T Review

I purchased the Alinco DX-70T in December, 1995, just after I saw the "Equipment Review" in "QST", and here are my observations to date.

First off, I have had a WHOLE BUNCH of gear in the 30+ years I have been on the air, and will be the first to admit that 'reviews' are subjective, not objective. The review in "QST" is a good one, and I can't fault their findings. The 'raw data' is in the "QST" article, and I won't repeat it here.

I have not, as of this date, run the DX-70T mobile, but I have hauled it out in the field with a Marine battery for portable 'Field-Day'-type operations already. The first thing I noticed is that the radio is relatively insensitive to both SWR variations and low voltage. I was running the rig in both 'High Power' and 'Low Power', and ran the battery down to about 11 Volts without any bad reports. The power DID drop off, but stability wasn't affected. The RX section runs on a lower potential, and the internal voltage regulation kept RX consistent. There is a switch on the 'Main' PCB that selects 100 Watts or 50 Watts max, and I put the rig in the '50 Watt' setting. This allows QRP in 'Low Power' without any outboard attenuators or whatever. [Output on mine, in LOW, is 4.0 - 4.5 watts with a 12.5 V source...]

The RX is VERY sensitive, in fact, the preamp needs to be switched off on 160, 80 & 40 Meters. The RX can be run at -20 dB, -10 dB, 0 dB and +10dB, all controllable from the front panel. The preamp works all the way from 30KHz to 60 MHz, as does the attenuator. The RX must be 'Extended' to receive below 150KHz and above 30MHz, and also to receive the whole range from 45MHz to 60 MHz. Alinco has the sheets available on request to perform the expansion. The expansions are RECEIVE ONLY, but there is a separate MARS/CAP mod, available on request from Alinco.

One of the VERY nice features in the DX-70T is the filtering. It is STANDARD, with Wide & Narrow modes in SSB/CW and AM. This will save a bundle when one does not have to buy \$200 - \$300 of "accessory" filters just to be able to run in the CW portions of the band with any degree of comfort. The Filter 'Table' is listed below:

Mode	Wide	Narrow
CW	1.0 KHz	0.5 KHz
SSB	2.4 KHz	1.0 KHz
AM	9.0 KHz	2.4 KHz
FM	9.0 KHz	N/A

The modes have programmable tuning rates for the 'MF' [Multi-Function] dial, with steps ranging from 0.1 KHz to 10.0 KHz, depending on the Mode. The 'MF' dial can be used to set up a multitude of functions, and there are two or more functions for each button on the front panel, all accessible with the 'Function' button and the 'MF' key.

Handy features:

- >Selectable sideband on CW RX
- >Selectable CW Offset
- >All memories (100) are tunable with the 'Main' dial
- >All memories can be 'Split' (this is as good as an infinite RIT!)
- >APO (Automatic Power Off)
- >CTCSS (PL) for repeater access
- >160 - 6 Meters (10 Watts max on 6 Meters)
- >Adjustable backlight

And, finally, THE WARTS!

- >No Headphone Jack!!! I built up a box with an attenuator, but the 'hiss' is still there
- >Until you pre-program everything, it is NOT an Intuitive Radio.
- >The squelch is a bit too 'tight', even on the threshold.
- >The 'IF Shift' needs to be readjusted between modes
- >The 'Noise Blanker' doesn't do much on line noise, and overloads easily
- >The QSK is noisy (a bunch of relay clatter)
- >The AGC and the Speech Compressor functions are not "Hot-Keyed". You need to use the Function switch to get to them.
- >The CTCSS is set with DIP-switches, accessable thru the bottom of the case. If you need a different tone (for 10 or 6 M FM), you have to flip the rig over & reset the tones.

Even with these Warts, I like the radio. Everything on the air has a trade-off or three, and I can live with these. The current drain on RX, with the LCD backilght 'OFF' is about 550 ma, which is about the same as the Ten Tec 'Scout' I borrowed last year. With a Deep-Cycle Marine battery, you could run a whole Field Day weekend on one charge, (and, I did for F.D. last June!...) It is hard to beat a radio that does so much in a 2 Meter FM Rig-sized footprint, and the latest price REDUCTION (!!!) has put this one UNDER \$900.

Drop me a line if you have any other observations on the Alinco DX-70T...

72/73, Keith, WB2VUO, QRP-L #582
Trustee, KB2YTW/B 10 Mtr Beacon (28.2860 MHz)
"In the Depths ofthe Great Bergen Swamp...FN13ac"

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: wb2vuo@juno.com (William K Hibbert)
Subject: [655] Antenna Info

Message-ID: <19960928.203328.4511.2.wb2vuo@juno.com>

The postings I sent out this weekend were some I have had over on the Klub's PBBS on packet. I have others, including a multi-part series on the G5RV, compiled from a number of publications.

I will post them all, if there's interest, and the bandwidth is justified.

I will also say that the material is NOT original with me, but was compiled to help the "newbee's" in the local Klub...

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"In the Depths of the Great Bergen Swamp...FN13ac"

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: tony@wilkes.ak.planet.co.nz (Tony Wilkes)
Subject: [623] Autek RF-1
Message-ID: <612@wilkes.ak.planet>

Hi

Could somebody please tel me if the RF-1 by Autek Research is still available, if so what price , and their address .
Thanks
Tony

Tony Wilkes --- Whangaparaoa, North Island, New Zealand
ZL3SLH & G3SLH > QRP-L 717 - Royal Forest & Bird - Croquet

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: duane <duane@flinet.com>
Subject: [621] explorer II
Message-ID: <324CABC4.3C7F@flinet.com>

I just got my explorer II (30 meters) in today but I have ran across a problem.
my instructions do not instruct me to put in a cap for c-62 (just to the right of the metal inductor (coil). The circuit board has a drawing that appears to look like a 2 legged transistor. Is this correct or is it a small blue disc cap. I have one of them left over ? Any ways i put it together today but I'm waiting to found out about C-62.

I was shocked to see just how well made this little radio is made. I had thought it would be some small, minor part count, type of radio. this is the first mail order kit I've done and I am well impressed as to the care that has gone into this rig. The only other thing that happen was they forgot to put in the heat sink for the output trans. I'll take a guess at that one ...the bigger the better. hope to have it together soon can't wait until i can hear it and tx . It should be a great little rig !
thank in advance for any help you may have ref to the cap. problem.
duane AB4BE qrp-L # 710

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: "Phil, AC6LS" <ac6ls@amsat.org>
Subject: [627] hello, its me again...
Message-ID: <324CDC24.78CE@amsat.org>

Well I am back now, hope I didnt miss too much. Another one of those server "bouncing" problems. Started going thru withdrawls :-)

cu all at Pacificon!

72/3 de Phil ac6ls

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: wb2vuo@juno.com (William K Hibbert)
Subject: [645] HF Loop Antennas
Message-ID: <19960928.163230.4335.1.wb2vuo@juno.com>

The Looper,
A Delta Loop/ Diamond Loop Antenna

Basically, the Looper is a full-wave loop antenna, with the full-wave referring to the circumference. One common example of this antenna can be seen by looking at a Quad. The loop elements in the are based on a full-wave loop. The Looper is basically a quad D.E. (driven element), that is fed as an antenna, sort of the same difference you would see between a dipole and a Yagi. The Quad antenna came to be in the 1940's at the HCJB transmitter site in Quito, Ecuador. The yagi antennas they were using for the high-power Shortwave broadcasts had Corona discharge from the ends, which were destroying the elements. The Full-wave loop element, with a reflector were tried, and didn't suffer from the corona damage. The Cubical Quad became popular with the Amateur community in the 1950's, although with the high wind loading, it has lost some of the popularity it had.

So, why would we (or you, for instance), want to run a Looper? Well, with the closed loop, any DC on the loop is bled to the ground side of the antenna. This helps reduce precipitation static, and may be part of the reason the Looper doesn't respond to static as much as other antennas. Some antenna references claim that the Full-Wave Loop has gain over a dipole, but it has been argued both ways. One real advantage is bandwidth, and another is multi-band capabilities. If you are running a dipole, and try to use it on its second harmonic, the center feedpoint shows a very high impedance. This results in a large mismatch, requiring the use of open-wire feeders, or stubs at the feedpoint. The Looper has a feed impedance on its fundamental of around 110 ohms, and doesn't vary much from that on its harmonics. You can use open-wire to feed it, and it will have similar matching characteristics on the various harmonically-related bands. If you want to use a Looper as a single band Delta or Diamond Loop, just feed the antenna with a quarter-wave long section of 75 Ohm coax, such as RG-59A/U. The velocity factor needs to be multiplied in for this cable length. The velocity factor for the foam cables is 0.8, so, to calculate the length, use the formula: $L = (246 \times 0.8) / F(\text{MHz})$.

Utilizing the lower HF spectrum during Field Day puts an interesting perspective on our antenna requirements. We want to talk to EVERYBODY, so the closer-in contacts are as important as DX. A high angle of radiation will be to our advantage on 80 & 40 meters, and by mounting the Looper in a horizontal, or sloping position, we will have the high-angle radiation we want. On the higher bands (20, 15 & 10 Meters), we will want a lower angle of radiation. The Looper, on its harmonic bands, tends to be an end-fired, low angle, vertically polarized antenna, which will give us the "DX" we want. In this respect, we can cover all the bases with one antler.

Just to give you an idea of what we will have, or provide you with the data you would need to install a Looper at your station at home, here are the dimensions for Full-Wave Loops for frequencies from 1.8 MHz to 29.3 MHz:

Freq (MHz)	Delta Side	Diamond Side	Matching Line RG-59A/U (Foam)
1.8	186.1'	139.6'	109.4'
1.9	176.3'	132.2'	103.7'
2.0	167.5'	125.6'	98.5'
3.6	93.1'	69.8'	54.7'
3.9	85.9'	64.4'	50.5'
7.1	47.2'	35.4'	27.7'
10.1	33.2'	24.9'	19.5'
14.1	23.8'	17.8'	14.0'
18.1	18.5'	13.9'	10.9'

21.1	15.9'	11.9'	9.3'
24.9	13.5'	10.1'	7.9'
28.3	11.8'	8.9'	7.0'
29.3	11.4'	8.6'	6.7'

NOTE: If the Looper is mounted in a Vertical plane, and fed in the center of the bottom or top, the polarization is Horizontal. If the Looper is fed in the center of either side, the polarization is Vertical.

In the Delta configuration, with the plane of the Looper Vertical, feeding it at either bottom corner results in an Oblique polarization, partially Vertical and partially Horizontal.

Antenna season is here, so get out the wire and coax, and go to town. Let's hear about your Looper experiences.

72/73, Keith, WB2VUO, QRP-L #582
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 "In the Depths of the Great Bergen Swamp...FN13ac"

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
 From: bhopkins@polarnet.com (Bruce Hopkins - KL7JAF)
 Subject: [640] KC-2 / Sierra
 Message-ID: <v01540b01ae7327ac5c38@[204.119.24.156]>

Hi Gang...

Just finished installing the KC-2 / new panel / ABX control on my Sierra... What can I say !!! This combo takes an already dynamite rig and turns it into an absolute JEWEL !!! Thanks go to Wayne for the design, Bob at (Wilderness Radio) for the implementation, and the entire Norcal Group for the QRP inspiration and beta testing...

When time allows I will put a full review on my web page... For now all I can say is thanks to all involved...

Take care and have fun !!!

72/73/oo's - Bruce * KL7JAF

EMPS QS0s=0 STATES(w/c)=0/0 DX=0
 QRP Web Page: <http://www2.polarnet.com/~bhopkins>

"Every Man should learn to play the Flute,
 but not well..."

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Claudio Watanabe <watanabe@matrix.com.br>
Subject: [628] Norcal 40A with MFJ-971 question!
Message-ID: <1.5.4.32.19960928134645.0071f570@matrix.com.br>

Hi guys,

I am thinking about buying a MFJ-971 QRP antenna tuner for my Norcal 40A and I was wondering if somebody has made some measurements of how much power is lost in the antenna tuner even though it is a QRP one. We still have the power lost on connectors and all that stuff. And also, how good is the MFJ-27 handle for CW station for the MFJ-90XX series.

73s.

Cl=Eludio Watanabe ZZ5CLW
watanabe@matrix.com.br
claudio@grucad.ufsc.br
<http://www.grucad.ufsc.br/~claudio/>

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: duane <duane@flinet.com>
Subject: [624] northren cal qrp journal
Message-ID: <324CBA1F.7669@flinet.com>

has anyone receive the northren cal qrp journal for sept yet.
I have not....just asking and waiting with anticipation.

duane AB4BE

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: "John Shuster" <jshuster@ix.netcom.com>
Subject: [647] OHR 100 Reflections and Group Buy Info (Long)
Message-ID: <199609282343.QAA14267@dfw-ix4.ix.netcom.com>

This is a multi-part message in MIME format.

-----=_NextPart_000_01BBAD5B.BF570140
Content-Type: text/plain; charset=ISO-8859-1
Content-Transfer-Encoding: 7bit

OHR 100 Reflections and Group Buy Info

To All:

I just finished building the OHR 100 / 30 meter rig I bought during the last group buy in June. Chuck Adams had just finished building his, and wrote me that he could "hear a mosquito sneeze in Ghana". I know just what he means. The receiver is hot, but not noisy. I guess I'd describe the way it hears a signal visually - like a spotlighted singer against a black velvet background. Dick Witzke has a blend of filtering and audio response in this radio that really makes a signal stand out. Night before last, I was working some weak signals out of the great state of Texas. I could hear the signals more clearly from my OHR 100 than I could from my \$1,600 Kenwood 850S/AT. These OHR rigs just keep on getting better. Dick has done it again.

Construction was typical OHR quality and clarity. No over-explaining and no ambiguities. I'm one of those guys that likes winding toroids. Got my first training in this area when I built my Norcal 40A. They all turned out perfectly and I didn't have to tweak (unsolder then add or remove coils) any of them to get the rig aligned. Dick did his homework up front. All wiring is through molex connectors. If I ever have to do anything to this rig, I'll just pull the connectors and pop the board out. The final transistor has a really BIG heatsink in comparison to others I've installed. It looks very impressive on the board and reflects the "extra mile" attitude of Dick's design philosophy.

I was wary of the varactor tuning. I replaced the standard tuning pot in my Norcal 40A with a 10 turn because I found it difficult to tune. It's much better now. The OHR 100 uses

a specially ordered from Canada, high quality, 100K pot to do the work. It is much better than I thought it would be. It's still not as smooth as an air variable to do that final tweak in on the signal, but I'm getting use to the feel of the Canadian masterpiece. Since I have a DD-1 to tell me where I'm at, I think I might pick up a 10 turn 100K for \$10 and see how it does. I'll probably end up putting the original pot back in...

Like the bigger OHR models, there's a power adjust shaft coming out of the back panel that allows you to set the output from 0 to 5 watts. My rig puts out about 5.3 watts at full bore.

You need an oscilloscope to align this rig. No way around it. I'm lucky to have an elmer, Murray, K7AU, who's a retired Boeing engineer with a full bench and a keen interest in anything that involves building. You may have to get on the repeater and ask for oscilloscope assistance. The Radio Shack \$100 wonder won't cut it, I already checked. There are probably more scopes out there than we think. Just a matter of asking. The improved sidetone circuit gives you a true sine wave for a top drawer tone on the air. It also allows you to adjust the frequency of the tone you hear. So, you can send a 700 Hz offset and listen to your 500 Hz preference from your speaker/headphones.

I'm like this rig so much that I'm going to do two things. First, I'm saving my money to buy a 40 meter version. Second, I've contacted Dick and arranged another OHR GROUP BUY for QRP-L. I will coordinate the group buy during the second week of October - Sunday Oct. 6 through Sunday Oct. 13th. I'll announce our special pricing a few days beforehand.

OHR has a new web page where you can check out all their kits with pictures and specifications. It's at <http://www.ohr.com/>.

John

Father John Shuster, Married Roman Catholic Priest jshuster@ix.netcom.com
Need A Priest? Rent-A-Priest! 1-800-PRIEST-9 A Free Referral Service
At the foot of the Olympics in little Port Orchard, WA

KC7CKP AE ARCI 8951 QRP-L 554 ARS 36 NW QRP 346 WWDXC ARRL
++++++
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Content-Transfer-Encoding: quoted-printable

<html><head></head><BODY bgcolor=3D"#FFFFFF"><p><font size=3D2 =
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From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Jeffrey Herman <jherman@hawaii.edu>
Subject: [639] QRP with Tubes
Message-ID: <Pine.GS0.3.93.960928090643.5496I-1000000@uhunix5>

listproc@theporch.com and only write:

subscribe glowbugs <your name here>

and you'll be hooked up. To send a message to the entire group use the address: glowbugs@theporch.com.

7.3W from Hawaii,
Jeff KH2PZ / KH6 (ex: WA6QIJ, WH6AEQ, NH6IL, NMO)

P.S. The Glowbug list isn't restricted to QRP power levels - many of the homebrew xmtrs folks are running do have more than 5W output...

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Stanley Wilson <microres@crl.com>
Subject: [641] Round nose pliers - Source wanted
Message-ID: <Pine.SUN.3.91.960928132018.6050B-100000@crl2.crl.com>

I am looking for a pair of round needle nose pliers. I have seen pictures of them, but have not been able to locate a source.

I hv tried Jensen, Snap-On, etc.

The are ideal for bending wire parts.

Anyone know who sells them ? Thanks
de stan ak0b

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: SYDV00A@prodigy.com (MR FLOYD E SMITHBERG)
Subject: [632] ScQRPion Meeting Oct.5 Lubys
Message-ID: <199609281653.MAA26518@mime4.prodigy.com>

Attention ALL QRP'rs or wannabe's in Phoenix, Glendale, Mesa, Chandler, Scottsdale, Sun Cities areas. Fall is upon us and time to get ready for the Fox Hunts, Fall QSO Party, World FYBO Contest, new Ten-Tec kits, etc. Meet at our usual location next to HRO at:

LUBYS 1933 W. Dunlap Phoenix 1030 MST Sat.

Bring show and tell, friends, wives for a good time and get updated on all the latest QRP News, local projects and have lunch with us....usually break up around 1:30 but come anytime, leave anytime. Informal attire acceptable.

Floyd NQ7X Phoenix ScQRPion ARCI NORCAL GQRP

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: wb2vuo@juno.com (William K Hibbert)
Subject: [644] The Wye, an Inverted Wire G.P.
Message-ID: <19960928.163230.4335.0.wb2vuo@juno.com>

The "Wye", a 3-Wire Ground-Plane Antenna

So, here you sit. You just got a new radio, or the urge to run on a band that you haven't used your old radio on before. So you grab your "MEGA-RADIO" catalog, open it to the "ANTENNA" section, and just about CHOKe when you see the prices on the antlers for the band of interest...

So, what is the cheap, er-r-r, frugal Ham to do? How about a Ground-Plane antenna. "Sure", you say, "Aluminum tubing just grows on the trees around here..." Maybe not, but good old #14 house wire is inexpensive, and readily available. What you need to do is to simplify the Ground-Plane (GP) antenna.

Looking at the GP, it is basically a 1/4-wave radiator, working against a "ground-plane". the ground-plane is an elevated counterpoise, which provides an electrical "image" of the radiating element. The simplest form of the GP would be a vertical element, with a 1/4-wave wire extending out at a 90-degree angle from the feedpoint. This used to be shown in the "Radio Amateur's Handbook" as the "30 Up & 30 Out". It was a 30 foot vertical, mounted on the roof, with a single wire extending out 30 feet, and was fed with 300-ohm ribbon, or ladder line. Despite the simplicity, this is an effective antler, and is still a viable one today.

The next step up is the "Wye", a 3-wire GP. In this configuration, the radiating element is hung from the eaves, (if high enough), or a tree branch. The radials consist of 2 wires connected to the braid on the coax cable, and pulled out & down, forming an upside-down "Y". In its simplest version, on VHF, the wires can be solid #10 or #12, with the wires soldered directly to a chassis-type coax connector. Zack, KH6CP/1 had just such an antenna in "QST" in 1992 or 1993, but I can't find the exact month right now. In "Ham Radio", back about 1985, W1JR had a 20 Meter version published, and Doug, W1FB has a 30 Meter version

in his "Antenna Notebook". Nothing really new, but a good idea is ALWAYS worth repeating.

CHARTS & FORMULAS

You can't have anything on antlers without a chart or 3, and formulas are needed to beef up the information, so, here are some dimensions and formulas for the "Wye", for 40 - 2 Meters:

$$\text{Radiator(ft)} = 234/\text{F(Mhz)}$$

$$\text{Radial(ft)} = 246/\text{F(Mhz)}$$

Frequency	Radiator	Radial
7.1 Mhz	33' 0"	34' 8"
10.1 Mhz	23' 2"	24' 5"
14.2 Mhz	16' 6"	17' 4"
18.1 Mhz	12' 11"	13' 7"
21.2 Mhz	11' 0"	11' 7"
24.9 Mhz	9' 5"	9' 11"
28.4 Mhz	8' 4"	8' 8"
29.4 Mhz	8' 0"	8' 5"
50.3 Mhz	55.8"	58.6"
52.5 Mhz	53.5"	56.2"
146.0 Mhz	19.2"	20.2"

72/73, Keith, WB2VUO, QRP-L #582

Trustee, KB2YTW/B 10 Mtr Beacon (28.2860 MHz)

"In the Depths of the Great Bergen Swamp...FN13ac"

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996

From: wb2vuo@juno.com (William K Hibbert)

Subject: [642] Tilted Long Wire Antenna

Message-ID: <19960928.163230.4335.3.wb2vuo@juno.com>

A Tilted Off-Center Fed Long-Wire

In the December, 1995 "QST", there is an article on a tilted (sloped) long-wire array called "The Super Sloper", by Roger Sparks, W7WKB. What Roger had done was to model a tilted long-wire with a parasitic director with his computer. What he found can be applied to a simpler array utilizing just the long wire with an offset feedpoint.

A basic long-wire will have a pattern that differs from the classical 1/2-wave antenna. The radiation will be more off the ends of the wire instead of the sides, with the major lobes lining up closer to the wire direction as the length is increased. The major lobes form a squashed cloverleaf pattern, with the center of the pattern partially

filled with the minor lobes. (By definition, a minor lobe is any lobe that is -10dB when compared to the strongest major lobe...) These lobes run from 45-degrees off-axis for a 1-wave long-wire, to 25-degrees off-axis for an 8-wave long-wire. Most amateurs don't have room for anything greater than 8 wavelengths long, even on 10 Meters, so we won't discuss them here.

One thing that is overlooked is that these major lobes also display a radiation angle, (vertical angle), equal to the offset angle. By tilting the wire, the major lobes can be depressed to the horizon, which will make the antenna more unidirectional. A good compromise angle is 30-degrees, although even a 15 - 20 degree angle will produce a front-to-back ratio. This angle can be achieved with a 40-foot high support at one end, and a 10-foot high support at the other, with overall lengths of 70 - 150 feet.

The offset feed point is used to enhance the unidirection characteristics and to feed the antler at a current node, which brings the feedpoint impedance down to a more manageable level. Basically, the feedpoint is 1/4-wave from the high end of the wire, with the total length of the wire being equal to an integral multiple of 1/2-wave, (1-wave, 1 1/2-wave, 2-wave, etc...) For the example, I will model this antler for 20 Meters, with a 1-wave version, and a 1 1/2-wave version:

1-Wave Tilted Wire

Frequency = 14.200 MHz
Total Length = 67.5 feet
Feedpoint = 16.5 feet
Approx. Gain = 2.5 dB

1 1/2-Wave Tilted Wire

Frequency = 14.200 MHz
Total Length = 101.5 feet
Feedpoint = 16.5 feet
Approx. Gain = 3.0 dB

The length of the 1 1/2-wave Tilted Wire may look familiar, and it should. A G5RV is 1 1/2-waves at 20 Meters, but is fed in the center. By moving the feed to the end, the feedpoint impedance will fall in the range of 130 - 170 Ohms, which, when fed through a 4:1 balun, and 50 ohm coax will yield an SWR of 1.6:1 or lower. This is easily in the range of even the most basic ATU's, and may be usable without a tuner at all.

The forward pattern will be about 90 - 120 degrees wide, with a F/B ratio of 6 - 20 dB, depending on tilt, height, etc... The 1-wave version, if fed directly with RG-8X or other 50-ohm coax, will have an SWR of about 2.5:1, and will need a tuner in line for most operations. The lightest weight feedline for the Tilted Wire would be 1/2-wave of twinlead from the feedpoint to the balun, and then coax to the ATU. The 1/2-wave section will bring the same impedance down to the balun, and you won't have the weight of the balun at the feedpoint.

The principle can be extended out as far as you have room. Just keep the total length at an integral multiple of 1/2-wave, and the feedpoint at a 1/4-wave or 3/4-wave point from the end. Keep this design in mind for Field Day!

72/73, Keith, WB2VU0, QRP-L #582
Trustee, KB2YTW/B 10 Mtr Beacon (28.2860 MHz)
"In the Depths of the Great Bergen Swamp...FN13ac"

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: rright@primenet.com (Roger Hightower)
Subject: [635] Re: 7040 Digital interference
Message-ID: <199609281824.LAA07471@primenet.com>

At 10:51 AM 9/28/96 -0700, Dan Presley wrote:
>Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is
>there a contest, or is it more encroachment?
>Dan N7CQR
>
>

Heard it loud last night. I don't have anything set up for rtty, so don't have a clue who it is. Sure would like to send them a lid-o-gram, though.

72/73 de Roger AA7QY

NorCal 1099 CoQRP 176 QRP-L 62 G-QRP 9081 ARCI 8946 NE-QRP 383

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: kd7s@psnw.com (Bill Jones)
Subject: [637] Re: 7040 Digital interference
Message-ID: <199609281836.LAA19513@sierra.psnw.com>

Dan,

Yes, there is an rtty contest going on. And, yes, it is more encroachment. My experience is that the vast majority of rtty operators are very fine and considerate gentlemen but during the heat of competition they don't always respect the *gentleman's agreement* at it pertains to band plans.

>Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is
>there a contest, or is it more encroachment?

>Dan N7CQR

=====
Bill Jones - KD7S <><
Sanger, California
Reply to kd7s@psnw.com
=====

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: GREGOIRE@ENDOR.COM (ERNEST GREGOIRE)
Subject: [638] Re: 7040 Digital interference
Message-ID: <199609281855.0AA58758@nss2.CC.Lehigh.EDU>

>Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is
>there a contest, or is it more encroachment?

>Dan N7CQR

>

>

Hello Dan, and gang,

Now, now, boys and girls, don't be covetous of the Freqs. 7040 also happens to be a rtty frequency, and yes there is a rtty contest going on this week end. Why not join the fun. Rtty QRP is a blast. I use a QRP+ and Kam T.N.C. with HostmasterII software. To get on 20 meters I have to send a command to the T.N.C. to invert the XMT signal , due to using upper side band for 20 meters and up.

I would be doing that contest myself, but I am doing a modification to the QRP+, for RF gain control. And while I'm at it, I will make an attempt at changing the RF power out pot, so as to be able to put a knob on it. This will enable me to not only adjust the RF gain, just by reaching over the top of the rig, but the power out too.

Sssssso, lighten up guys, if you can't beat em , join em!!

YH000000E, RTTY, (I'm an old rin tin tin fan)

73 de AA1IK
Ernie

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Clay N4AOX <wyn@worldnet.att.net>
Subject: [648] Re: 7040 Digital interference

Message-ID: <324DB8BD.2E62@worldnet.att.net>

Roger Hightower wrote:

>
> At 10:51 AM 9/28/96 -0700, Dan Presley wrote:
> >Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is
> >there a contest, or is it more encroachment?
> >Dan N7CQR
> >
> >
>
> Heard it loud last night. I don't have anything set up for rtty, so don't
> have a clue who it is. Sure would like to send them a lid-o-gram, though.
>
> 72/73 de Roger AA7QY
>
> NorCal 1099 CoQRP 176 QRP-L 62 G-QRP 9081 ARCI 8946 NE-QRP 383

RTTY is bad here tonight - saturday on 7.040. I just worked Joel
KB3AZK QRP at 7.101 in the novice band way up in Braddock Pa so it is
not band cond.

72/73,
Clay N4AOX

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Gary Surrency <gsurrenc@ix.netcom.com>
Subject: [651] Re: 7040 Digital interference
Message-ID: <324DB6E0.1F09@ix.netcom.com>

Roger Hightower wrote:

>
> At 10:51 AM 9/28/96 -0700, Dan Presley wrote:
> >Is anyone hearing the rtty all around 7040 last night & today (9/27-28)? Is
> >there a contest, or is it more encroachment?
> >Dan N7CQR
> >
> >
>
> Heard it loud last night. I don't have anything set up for rtty, so don't
> have a clue who it is. Sure would like to send them a lid-o-gram, though.
>
> 72/73 de Roger AA7QY
>
> NorCal 1099 CoQRP 176 QRP-L 62 G-QRP 9081 ARCI 8946 NE-QRP 383

Guys,

Checked the Contest Corral section of my September QST.
It's the CQ WW RTTY contest, Sept 28-29.

Yeah, these digital guys don't seem to care who they QRM. :-@

--

Gary, AB7MY QRP-L #571 Chandler, AZ (near Phoenix)Grid Square DM43BH

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: AE0Q / V31RY <v31ry@ix.netcom.com>
Subject: [653] Re: 7040 Digital interference
Message-ID: <2.2.16.19960928192910.29f7a9fe@popd.ix.netcom.com>

As most everyone has heard, this weekend is the CQWW RTTY contest. It's one of THE biggest RTTY contests of the year, and this is just the start of the contest season.

Something not everyone is aware of is the laws regarding operating frequencies in OTHER countries. In Asia, they are only allowed to operate RTTY in a narrow band of freqs roughly between 7025 and 7040. So that's where the rest of the world operates to work them.

North American stations work other N.A. stations up much higher in the band to stay away from the CW freqs.

Gentlemens agreements are fine, and most good ops try to operate within them. But the ARRL can't control laws and frequencies that other countries operate within.

I just thought everyone would like to know a little about WHY the RTTY ops are on 7040.

73 -- Glenn

Another month ends... All targets met, all systems working, all customers satisfied, all staff eager and enthusiastic. All pigs fed and ready to fly.

AE0Q / V31RY
v31ry@ix.netcom.com

ex: GM5BKC, ZB2WZ, SV0WY, WA0VPK
-- ARRL LM, QCWA LM, NCVA --

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Gary Surrency <gsurrenc@ix.netcom.com>
Subject: [650] Re: Bare Essentials THANKS!
Message-ID: <324DB3D7.26FA@ix.netcom.com>

Thomas J. Whalen wrote:

>

> Thanks all for the time you spent looking for the 50C5 xmtr article.-----
SNIP-----

Ditto from me, guys! Thanks for the efforts some of you spent
in tracking down this info.

Funny how I could remember the magazine (Electronics Illustrated, now
extinct) and the year (March,1968) from so long ago. I guess you just
remember the things that were so cool as a young ham! I was a freshman
in high school! I don't recall whatever happened to the original I built
into a 3x4x5 aluminum minibox.

Now I too, have to find a tube, socket, and crystal (probably 7020 KHz or so)
so I can revive this lil' bugger. I'll play it safe and use a transformer. :-)

On another note.....

Glad to see the WW RTTY contest is winding down. There were some really
powerful QRO RTTY signals last night on 7035, 7037, 7040, 7042 KHz. I
decided to QRX until it died down. Wish these guys would observe the
band plan. One of them was 50db over S9 at this QTH.

C'ya,

--

Gary, AB7MY QRP-L #571 Chandler, AZ (near Phoenix)Grid Square DM43BH

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Monte Stark <ku7y@sage.dri.edu>
Subject: [626] RE: Coax Splicing
Message-ID: <Pine.SUN.3.90.960927225526.4295E-1000000@vortex.sage.dri.edu>

Hi All,

There was an article in one of the big magazines, QST or CQ I
think, that was about one of the better testers and his

antennas.

He used 72 ohm TV coax, and made his connections by putting the two peices togeather with hose clamps on the "body" and twisting the center conductors togeather. He water proofed them by placing an inverted 2L soda bottle over them!

I sometimes think we get too worried over the little things and forget to just go have fun! :-)

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
....ku7y@sage.dri.edu.....Washoe Lake, Nevada....
....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Joe Gervais <vole@primenet.com>
Subject: [622] Re: FYBO Winter QRP FD
Message-ID: <199609280441.VAA11862@primenet.com>

Roger (AA7QY) wrote:

>
> > I think that you have a winner here. On my calendar - looking forward to
> > a blue norther to equalize things a bit.
> >
> > Ed, N5EM
>
> You gotta be kidding, Ed! I suffered through one of them near Amarillo
> whilst huddled in a small pop tent with my dog. Lord, was it cold....
[SNIP]
> Can't imagine trying to use a key when it's that cold.

Yeah, but just imagine what the multiplier would've been!

:-)

Cheers de KC7NEV,

-Joe, vole@primenet.com, AZ ScQRPion #7

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Luke Enriquez <ecsclfe@lux.latrobe.edu.au>
Subject: [654] Re: Ground for vertical
Message-ID: <9609290134.AA24995@lux.latrobe.edu.au>

Howdy,

> I am no expert but having heard what has been said in the
> past in the qrp-1 group, using the metal roof itself as a
> ground plane is problematic/difficult. Electically flakey
> joints in the metal roof can result in RFI generation.
>
> The solution I heard offered is to just use radials
> and lay them on top of the metal roof.
>
> I am hoping someone with mor hands on knowledge will
> speak up here.
>

Thanks for the comments Roger. I remember one of our local repeaters was being interfered with because its mounting bolts had an electrically bad connection and was causing a diode action. I'm not sure why, but that's what I was told.

I could, if nessesary put up ground radials all over the metal roof, but I would like to try just the roof by itself first. The problem is so bad that I keep setting off my house alarm, even in the disarmed state! (@ 100w 20m).

Yes, QRP is the solution, but I use QRP when bush. Listening to QRP stations in the big smoke is very hard, due to all the electrical noise generated locally. Anyway, thanks for the input.

Regards,
Luke

--

Luke Enriquez VK3DLE "I only cook with Non-violent
3rd Year Electronic Engineering fruit that pulps itself."
Latrobe University, Victoria, Australia.
ecsclfe@lux.latrobe.edu.au

--

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Clay N4AOX <wyn@worldnet.att.net>

Subject: [649] Re: HF Loop Antennas
Message-ID: <324DBB66.3224@worldnet.att.net>

William K Hibbert wrote:

>
> Antenna season is here, so get out the wire and coax, and go to
> town. Let's hear about your Looper experiences.
>
> 72/73, Keith, WB2VUO, QRP-L #582
> Trustee, KB2YTW/B 10 Mtr Beacon (28.2860 MHz)
> "In the Depths of the Great Bergen Swamp...FN13ac"

Keith,
 thanks for the great post on loop antennas. One of my "Looper"
experiences was with the 2M Quagi. It used a loop for driven element
and a loop for reflector. I used to work QRP mountain topping with
it using a broomstick and handheld. I did not use a matching 75 ohm
line, just fed the driven element direct with 50 ohm coax.

72/73,
Clay N4AOX

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: BOB KELLLOGG <ae4ic@nr.infi.net>
Subject: [629] Re: neqrp test
Message-ID: <199609281511.LAA02799@mh004.infi.net>

Hi Jim,

At 08:46 PM 9/27/96 -0700, you wrote:
>Little late I am sure, but anyway here are my limited results.

>wish I could have done the whole time but, definately had a ball
>as a new no-coder stopped by to see the battery operated setup in
>the shed with long wire slopping in attached to various 1 by 2 s
>. He heard and saw enuff fun to announce later in the week that
>he is hitting the cw tapes again..Thats my certificate guys, he's
>seen the fun, and is willing to pay the price..tnx and c u all
>in the arci test 21/22?

Great Job!! As far as I'm concerned you are one of the contest winners.
You were having such a good time it rubbed off on someone else. It can't
get better than that!! Congratulations!!

CUL,

Bob Kellogg, AE4IC
Probably, but not necessarily. - Benny Hill

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: TonyDrumm@ibm.net (Tony Drumm)
Subject: [630] Re: Norcal 40A with MFJ-971 question!
Message-ID: <199609281519.PAA32254@smtp-gw01.ny.us.ibm.net>

> I am thinking about buying a MFJ-971 QRP antenna tuner for my Norcal
>40A and I was wondering if somebody has made some measurements of how much
>power is lost in the antenna tuner even though it is a QRP one.

Well, there was sufficient power getting through the 971 from my 49er and 9v
battery (about 200-250mW) to have a decent QSO MN to IN during the recent
QRP Afield. I've gotten 599 reports from WI to UT and WI to WY running 2W.
I'm happy with mine!
Tony Drumm
ARS AA0SM

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: bfollett@ditell.com
Subject: [631] Re: Norcal 40A with MFJ-971 question!
Message-ID: <199609281612.KAA00761@orion.ditell.com>

Hi Claudio:

<< I am thinking about buying a MFJ-971 QRP antenna tuner for my Norcal
40A and I was wondering if somebody has made some measurements of how
much power is lost in the antenna tuner even though it is a QRP one.>>

As you can gather from reading recent posts, measuring tuner efficiency
is difficult at best, and we have been just discussing 50 ohm dummy
loads!

In general, the bigger the tuner, the more expensive the parts, the more
efficient it is. That's why we QRPers have problems trying to make
mini-tuners!

If you can stand the size, you would be much better off using the MFJ
949 tuner series. Those Ultimate series are unquestionably better, with
roller inductors, hi Q capacitors, but they are both pricey and huge!.

So chose your compromise, but remember, just because you are running low power doesn't mean a smaller tuner is better. Its quite the opposite.

73, Bob

Bob Follett WA7FCU, QRP-L # 129, NorCal, ARCI, 10-10, ARS
2861 Estates Dr. VOICE: 801.649.6457
Park City, UT 84060 E-mail: bfollett@ditell.com

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: adams@chuck.dallas.sgi.com (chuck adams)
Subject: [636] Re: Pacificon Badges
Message-ID: <199609281834.SAA15866@chuck.dallas.sgi.com>

Thanks to Preston for his effort on the badges for Pacificon.

The meet is the weekend of the QRP ARCI contest. Bummer.

But it looks like if we all brought a 40-9er we could all tie for first place on 40M. Except that W8MVN is probably gonna take it away from us.

We need a WAH, Worked All Hotel. :-)

dit dit

Oh, Preston I'll pick mine up in NYC.

:-)
: Chuck Adams (K5FO CP-60) 49/49/50 adams@sgi.com
: EMPS QS0s=0 STATES(w/c)=0/0 DX=0

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: "J. Skalski" <jskalski@acsu.buffalo.edu>
Subject: [646] Re: Round nose pliers - Source wanted
Message-ID: <Pine.GS0.3.93.960928165739.25668A-100000@lictor.acsu.buffalo.edu>

Hello,
try Debco they list a pair of 5" round nose #76-0232 at \$5.49.
1 800-423 4499
http://eli.warait.org/debco_el/index.html

Jim N2GO
The Buffalo QRP CONNECTION
ARCI #9013 QRP-L #381
jskalski@acsu.Buffalo.EDU

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: WD6BOR@aol.com
Subject: [656] Re: Round nose pliers - Source wanted
Message-ID: <960929000113_113564418@emout02.mail.aol.com>

In a message dated 96-09-28 16:26:17 EDT, microres@crl.com (Stanley Wilson) writes:

<< I am looking for a pair of round needle nose pliers. I have seen pictures of them, but have not been able to locate a source.

>>

Stan,

I've got a set of nice pliers I bought from Sears that include a pair of round nose. Take a look in your local Sears tool department.

Darrel, WD6BOR

From owner-qrp-1@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Monte Stark <ku7y@sage.dri.edu>
Subject: [625] Re: Solargizer vs Wet cells / Gel cells
Message-ID: <Pine.SUN.3.90.960927225016.4295C-1000000@vortex.sage.dri.edu>

Hi Tim,

One of the fellow at work made lots of chargers for our batteries. He said that using square wave DC was better for them than clean DC.

Simple.....a xfmr, diode and a variac.

Maybe someone here can explain the good/bad of that system.

cul,

73, Ron,

.....KU7Y.....ARCI #8829.....Monte "Ron" Stark.....
....ku7y@sage.dri.edu.....Washoe Lake, Nevada.....
....QRP-L #17...ARS #49...NorCal #330.....NRA LIFE.....

From owner-qrp-l@Lehigh.EDU Sat Sep 28 23:12:28 1996
From: Clay N4AOX <wyn@worldnet.att.net>
Subject: [652] Re: Tilted Long Wire Antenna
Message-ID: <324DBC4.708C@worldnet.att.net>

William K Hibbert wrote:

>

> A Tilted Off-Center Fed Long-Wire

> <some good stuff omitted for brevity>

> By tilting the wire, the major lobes can be depressed to the horizon,
> which will make the antenna more unidirectional. A good compromise
> angle is 30-degrees, although even a 15 - 20 degree angle will produce a
> front-to-back ratio. This angle can be achieved with a 40-foot high
> support at one end, and a 10-foot high support at the other, with
> overall lengths of 70 - 150 feet.

> Approx. Gain = 2.5 dB Approx. Gain = 3.0 dB

>

> F/B ratio of 6 - 20 dB, depending on tilt, height, etc...

Keith,

Thanks again for a great post on tilted long wires. I have
also noticed this same phenomena with tilted loops, that is
loops tilted out of the vertical plane about 30 degrees.

72/73,
Clay N4AOX